REMARKS

Claims 1, 4, and 24 have been amended. Claims 40-43 have been added. Claims 1, 2, 4-8, 10-14, 16, 17, 19, 20, 22, 24, 25, 35, 39, and 40-43 are pending in the present application.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. Objection to the Specification

The disclosure was objected to because the status of the parent application, recited on page 1, line 8 of the specification, needs to be updated. Appropriate correction was requested.

The status of the parent application has been updated by amendment of the specification.

II. The Rejection of Claims 1, 2, 4-8, 10-14, 16, 17, 19, 20, 22, 24, 25, 35, and 39 under 35 U.S.C. § 112, Second Paragraph

Claims 1, 2, 4-8, 10-14, 16, 17, 19, 20, 22, 24, 25, 35, and 39 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite on two grounds.

Ground 1: The Office Action states that the claims are indefinite in failing to recite what amount (claim 1, line 2) is effective. This rejection is respectfully traversed. The specification defines on page 6, lines 24-26, and on page 11, lines 18-22, the term "effective amount".

Ground 2: The Office Action states that the claims are indefinite because there is no antecedent basis in claim 1 for "the pectin enzyme" (claim 2). This rejection is respectfully traversed. Claim 2 recites "the pectinase enzyme" not "the pectin enzyme". Claim 1 recites "a ... pectinase" so there is an antecedent basis in claim 1 for "the pectinase enzyme" in claim 2.

For the foregoing reasons, Applicants submit that the new claims overcome the rejections under 35 U.S.C. § 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

III. The Rejection of Claims 1, 5, 6, 8, 14, 25, 35, and 39 under 35 U.S.C. § 102

Claims 1, 5, 6, 8, 14, 25, 35, and 39 stand rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita (U.S. Patent No. 5,312,631, columns 2-3 and claims 1-3). The

Office Action states:

> Yamashita discloses blanching raw potato pieces at 50-100° C and then washing with or immersing them in an aqueous solution of 1-3% alpha or glucoamylase followed by drying and conventional cooking.

This rejection is respectfully traversed.

Under the standard required for anticipation under 35 U.S.C. § 102, the cited prior art reference is required to disclose every element of the claimed invention. *Lewmar Marine Inc. v. Barient Inc.*, 3 USPQ2d 1766 (Fed. Cir. 1987).

Yamashita discloses immersing and washing an agricultural product containing starch in an aqueous solution of at least one of alpha-amylase, beta-amylase, glucoamylase, and other kinds of amylolytic enzymes.

However, Yamashita does not disclose methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, as claimed herein. Glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase are not amylolytic enzymes.

For the foregoing reason, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 102. Applicants respectfully request reconsideration and withdrawal of the rejection.

IV. The Rejection of Claims 4, 7, 10, 11, 16, 17, 19, 20, 22, and 24 under 35 U.S.C. § 103

Claims 4, 7, 10, 11, 16, 17, 19, 20, 22, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamashita (U.S. Patent No. 5,312,631). The Office Action states:

> The particular variety of potato (claim 4) is an obvious matter of choice and is not critical. Blanching concurrently with enzyme treatment (claim 7) is not patentably distinct from blanching before enzyme treatment. Parfrying and baking (claims 10, 16, 17, 20 and 24) are conventional cooking procedures for potatoes. Freezing after parfrying potatoes (claims 11, 22 and 24) is also conventional in the art.

This rejection is respectfully traversed.

The Examiner has the initial burden of establishing a *prima facie* case of obviousness. A finding of obviousness under § 103 requires a determination of the scope and content of the prior art, the differences between the claimed invention and the prior art, the level of ordinary skill in the art, and whether the differences are such that the claimed

subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made. *Graham v. Deere*, 383 US 1 (1966). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion that the combination be made. *In re Stencel*, 828 F2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987).

Yamashita, as discussed above in Section III, discloses treating an agricultural product containing starch with at least one amylolytic enzyme.

Yamashita does not teach or suggest methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, as claimed herein. Glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase are not amylolytic enzymes.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

V. The Rejection of Claims 12 and 13 under 35 U.S.C. § 103

Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamashita (U.S. Patent No. 5,312,631) in view of Judkins *et al.* (U.S. Patent No. 6,033,697), Rogols *et al.* (U.S. Patent No. 5,897,898), or Stevens *et al.* (U.S. Patent No. 5,965,189). The Office Action states:

> It would have been obvious to starch coat the potatoes in Yamashita after blanching and drying and before cooking since it is old to starch coat blanched and dried potatoes before parfrying and freezing in order to improve crispness, as evidenced by any of the secondary references.

This rejection is respectfully traversed.

Yamashita, as discussed above in Section III, discloses treating an agricultural product containing starch with at least one amylolytic enzyme.

Judkins *et al.* disclose frozen par-fried potato strips having a dual coating on the strips consisting essentially of a coating of a hydrocolloid layer on the surface of the strips and a separate and distinct starch-based batter coating over and adhered to the hydrocolloid layer.

Rogols *et al.* disclose a process for preparing a frozen potato product coated with an aqueous starch slurry.

Stevens *et al.* disclose a slurry comprised of starch to coat a potato product to extend

the hold time thereof.

Yamashita, Judkins *et al.*, Rogols *et al.*, and Stevens *et al.*, alone or in combination, do not teach or suggest methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, and further comprising coating the potato substance, as claimed herein. Glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase are not amylolytic enzymes. It was, therefore, improper to combine Yamashita as the primary reference with Judkins *et al.*, Rogols *et al.*, or Stevens *et al.*

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

VI. The Rejection of Claim 2 under 35 U.S.C. § 103

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamashita (U.S. Patent No. 5,312,631) in view of Fan *et al.* (U.S. Patent No. 4,503,127). The Office Action states:

> It would have been obvious that the heating during blanching in Yamashita will activate the enzyme pectin methyl esterase, which would then be present during the alpha or gluco amylase treatment therein, since it is well known that heating raw potatoes at 50-60°C will activate the enzyme pectin methyl esterase, as evidenced by Fan *et al.* (claim 9).

This rejection is respectfully traversed.

Yamashita, as discussed above in Section III, discloses treating an agricultural product containing starch with at least one amylolytic enzyme.

Fan *et al.* disclose a hot oil pre-treatment method for activating pectin methylesterase endogenous to starch-containing vegetables in order to lower the fat content of the final potato product. However, Fan *et al.* does not disclose treating a potato substance with an effective amount of an exogenous pectinase, as claimed herein. In fact, Applicants submit that Fan *et al.* teach away from treating a potato substance with an effective amount of an exogenous pectinase since there is no teaching or suggestion of using an effective amount of an exogenous pectinase.

Yamashita and Fan, alone or in combination, do not teach or suggest methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group

consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, as claimed herein.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

VII. The Rejection of Claims 1, 5, 10, 14, 16, 17, 19, 25, 35, and 39 under 35 U.S.C. § 102

Claims 1, 5, 10, 14, 16, 17, 19, 25, 35, and 39 stand rejected under 35 U.S.C. 102(b) as being anticipated by Roan (U.S. Patent No. 4,058,631, claim 1). The Office Action states:

> Roan discloses treating raw potato pieces with an aqueous solution of 0.1% alpha amylase enzyme and then frying.

This rejection is respectfully traversed.

Roan discloses the pretreatment of raw, starchy food products with an aqueous solution of alpha-amylase to reduce the absorption of fats and oils during frying.

However, Roan does not disclose methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, as claimed herein. Glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase are not amylases.

For the foregoing reason, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 102. Applicants respectfully request reconsideration and withdrawal of the rejection.

VIII. The Rejection of Claims 4, 11, 22, and 24 under 35 U.S.C. § 103

Claims 4, 11, 22, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Roan (U.S. Patent No. 4,058,631). The Office Action states:

> The particular potato variety (claim 4) is an obvious matter of choice and is not critical. Freezing parfried potatoes is conventional.

This rejection is respectfully traversed.

Roan, as discussed in Section VII above, discloses the pretreatment of raw, starchy food products with alpha-amylase to reduce the absorption of fats and oils during frying.

Roan does not teach or suggest methods for producing a consumable product from

potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, as claimed herein. Glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase are not amylases.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

IX. The Rejection of Claims 6-8 under 35 U.S.C. § 103

Claims 6-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Roan (U.S. Patent No. 4,058,631) in view of Yamashita (U.S. Patent No. 5,312,631). The Office Action states:

> It would have been obvious to blanch the potato pieces before enzyme treatment in Roan and then dry after said treatment since such steps are conventional in preparing alpha amylase treated raw potatoes, as evidenced by Yamashita.

This rejection is respectfully traversed.

Roan, as discussed in Section VII above, discloses the pretreatment of raw, starchy food products with alpha-amylase to reduce the absorption of fats and oils during frying. Yamashita, as discussed above in Section III, discloses treating an agricultural product containing starch with at least one amylolytic enzyme.

Roan and Yamashita, alone or in combination, do not teach or suggest methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, and further comprising blanching the potato substance prior to or concurrently with the enzymatic treatment, or further comprising partially drying the potato substance after the enzymatic treatment, as claimed herein. Glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase are not amylolytic enzymes.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

X. The Rejection of Claims 12 and 13 under 35 U.S.C. § 103

Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Roan (U.S. Patent No. 4,503,127) in view of Judkins *et al.* (U.S. Patent No. 6,033,697), Rogols *et al.* (U.S. Patent No. 5,897,898), or Stevens *et al.* (U.S. Patent No. 5,965,189). The secondary references are applied as in section V above. This rejection is respectfully traversed.

Roan, as discussed in Section VII above, discloses the pretreatment of raw, starchy food products with alpha-amylase to reduce the absorption of fats and oils during frying. Judkins *et al.*, Rogols *et al.*, and Stevens *et al.*, as discussed above in Section V above, disclose coatings of starch or hydrocolloid.

Roan, Judkins *et al.*, Rogols *et al.*, and Stevens *et al.*, alone or in combination, do not teach or suggest methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, and further comprising coating the potato substance with a starch and/or a hydrocolloid, as claimed herein. Glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase are not amylolytic enzymes. It was, therefore, improper to combine Roan as the primary reference with Judkins *et al.*, Rogols *et al.*, or Stevens *et al.*

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

XI. The Rejection of Claim 2 under 35 U.S.C. § 103

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Roan (U.S. Patent No. 4,503,127) in view of Fan *et al.* (U.S. Patent No. 4,503,127). This rejection is respectfully traversed.

Roan, as discussed in Section VII above, discloses the pretreatment of raw, starchy food products with alpha-amylase to reduce the absorption of fats and oils during frying.

Fan *et al.*, as discussed in Section VI above, disclose a hot oil pre-treatment method for activating pectin methylesterase endogenous to starch-containing vegetables in order to lower the fat content of the final potato product. However, Fan *et al.* does not disclose treating a potato substance with an effective amount of an exogenous pectinase, as claimed herein. In fact, Applicants submit that Fan *et al.* teach away from treating a potato substance with an effective amount of an exogenous pectinase since there is no teaching or suggestion

of using an effective amount of an exogenous pectinase.

Roan and Fan *et al.*, alone or in combination, do not teach or suggest methods for producing a consumable product from potatoes, comprising: (a) treating a potato substance with an effective amount of one or more exogenous enzymes selected from the group consisting of a glucose oxidase, laccase, lipase, pectinase, pentosanase, protease, and transglutaminase, and (b) processing the enzyme-treated potato substance to produce a potato product, as claimed herein.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

XII. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

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